UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,045	07/31/2001	Ramesh Nagarajan	129250-002077/US	4258

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EXAMINER
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ART UNIT	PAPER NUMBER
2416	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/919,045	NAGARAJAN ET AL.
	Examiner	Art Unit	
	BRENDA PHAM	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 October 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-14</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-14</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>31 July 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail. Date _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-14 are pending in the application.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine,
> manufacture, or composition of matter, or any new and useful improvement
> thereof, may obtain a patent therefor, subject to the conditions and requirements
> of this title.

3.   Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. A method for use in a node of a network as

recited in independent claims 1 and 6 recite a series of steps or acts to be performed

but does not satisfy the patentable subject matter requirements of 35 U.S.C. § 101. A

claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular

machine or apparatus, or (2) it transforms a particular article into a different state or

thing.

        The instant claimed invention recites a series of steps or acts to be performed

but it is neither tied to a particular machine or apparatus nor it transforms a particular

article into a different state or thing. Therefore, do not define a statutory process.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

        A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1-2, 6, 8-9 and 12 are rejected under 35 U.S.C. 103(a) as being anticipated by Callon (US 6,256,295 B1).

Regarding claims 1, 6, 8 and 12 Callon discloses an apparatus and method for use in a node of a network (see NODE of FIG. 3), the method comprising the steps of:

receiving a connection request **("step 110 determines whether additional non-overlapping paths are needed. This determination may be based on a specific number of non-overlapping paths requested by the user or network administrator." Col. 6, lines 35-40)**; and

assigning a link resource selected from link resources that have been released for connecting to a neighboring node by using at least one predefined sequence **(predetermined sequence is path 80 shows in Figure 4C)**, **("TENT database 75 and PATNS database 80 are used by the Dijkstra-based algorithms to determine such a path. Forwarding database 85 stores the calculated based path and allows routing engine 65 to perform a simple lookup to determine the path for forwarding a packet to the destination node." Col. 4, lines 30-35)** to avoid contention resulting from the request **(Callon discloses methods and computation for determining**

multiple non-overlapping or minimally-overlapping paths to avoid contention resulting form the request, Col. 2, line 45-50);

wherein the at least one predefined sequence resulted from a negotiation with the neighboring node prior to receipt of the request **("Each node of network 10 generates its own link state packet that includes information regarding its neighbor nodes including the identity of each neighbor node and the cost associated with reaching each neighbor node. When node 50 has received link state packets from every node of network 10, node 50 will have a complete map of the topology of the network stored in link state database 70. Routing engine 65 may use the information stored in link state database 70 to determine paths between node 50 and any other node of the network." Col. 4, lines 19-29)**.

Regarding claim 2, 9, Callon further discloses wherein the assigning step includes accessing a table for selecting the link resource for assignment to the connection request **(see PATH table 80 of FIG. 4C)**, the table comprising link resources arranged in accordance with the at least one predefined sequence **(PATH [A,B,G,H], see PATH 80 of FIG. 4C)**, wherein the link resources comprises ports of the node associated wit the link **(See Port 55 of FIG. 3).**

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 3-4, 7, 10-11 and 13-14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Callon (US 6,256,295 B1).

    Regarding claims 3-4, 7, 10-11 and 13-14, Callon discloses method and

apparatus for determining multiple minimally-overlapping paths between nodes in a

network.   The system determines a first path between the source node and the

destination node.

    Callon does not teach the method is implemented in an optical transport network.

    It is well known in the art that when a large network deploys a new architecture, it

is highly desirable to reuse the existing node sites and physical routes as much as

possible due to the costs of land, equipment and construction. Therefore, it would have

been obvious to one having ordinary skill in the art at the time of the invention was

made to implement the4 method of Callon in an optical transport network.

Response to Arguments

8.   Applicant's arguments filed 10/10/2008 have been fully considered but they are

not persuasive. Applicant argued in Remark page 8 that "Specifically, the phrase

"predefined sequence" in the claims of the present invention means at least a sequence

for allocating link resources within a single node. For example, as shown in Figure 4 of

the instant specification, one optical cross-connect (OXC) node agrees to assign link resources from the top-down to its ports, while another OXC node assigns link resources from the bottom-up to avoid a conflict over the allocation of ports and wavelengths for a link (See lines 15-18, page 6 in the specification in conjunction with Figure 4). In contrast, path 80 in Figure 4C of Callon is a path used to select a next node, not a port within a node, in multiple-node paths. In sum, the Examiner's interpretation of Callon's path 80 as being the same as the claimed predefined sequence is inconsistent with the specification and, therefore, impermissible.

Examiner respectfully disagrees because the phrase "predefined sequence" as defined in the specification is nowhere found in the claims. The "predefined sequence" in the claims read on Callon as a predefined path of consecutive nodes from the source to the destination. According to column 4, lines 30-37, Callon teaches "Forwarding database 85 stores the calculated best path and allows routing engine 65 to perform a simple lookup to determine the paths for forwarding a packet to the destination node." Examiner believes the phrase "predefined sequence" as in the claims read on Callon as a "path 80" shown in Figure 4C of Callon.

Applicant further argued on page 8 that "the claims of the present invention include the feature of "assigning a link resource selected from link resources that have been released for connecting to a neighboring node by using at least one predefined sequence...where the at least one predefined sequence resulted from a negotiation with the neighboring node prior to receipt a request". Callon does not disclose (or suggest) the claimed negotiation.

Examiner respectfully disagrees. The claimed limitation "wherein at least one predefined sequence resulted from a negotiation with the neighboring node prior to receipt of [a] request" read on Callon as "node exchange link state information". Callon teaches "node 50 exchanges link state packet via its various ports with every other connected node of network 10, and the link state database 70 stores the link state packets received from all nodes in the network. Each node of network 10 generates its own link state packet that includes information regarding its neighbor nodes including the identity of each neighbor node and the cost associated with reaching each neighbor node." Col. 4, lines 13-28. Callon teaches that the calculated best paths are stored in the Forwarding database 85 and allows routing engine 65 to simple lookup to determine the paths upon request.

Examiner believes Callon discloses each and every claimed limitation recite in the arguable claims. Therefore, the rejection stands.

9.   The prior arts made of record and not relied upon is considered pertinent to applicant's disclosure.

Phelps et al (US 2002/0118636 A1) discloses mesh network protection using dynamic ring.

Spiegel et al (US 5,649,108) discloses combined progressive and source routing control for connection oriented communication networks.

Lu et al (US 2002/0191247 A1) discloses fast restoration in optical mesh

network.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Brenda Pham whose telephone number is (571) 272-
3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Huy Vu, can be reached on (571) 272-3155.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the Group receptionist whose telephone number is
(571) 272-2600.

December 24, 2008

/Brenda Pham/

Primary Examiner, Art Unit 2416